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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,543	08/22/2003	Fumio Kinoshita	241538US3X	8110

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1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

BATSON, VICTOR D

ART UNIT	PAPER NUMBER
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3671

DATE MAILED: 02/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/645,543

Applicant(s)

KINOSHITA ET AL.

Examiner

Victor Batson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/24/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

This application is in condition for allowance except for the following formal matters:

See the discussion of the objections below.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Claim Objections

Claim 6 is objected to because of the following informalities: In claim 6 line 3, it appears that “an” should be inserted before “estimated N value”. Appropriate correction is required.

Specification

The disclosure is objected to because of the following informalities: In the specification (pages 8-9), the description of calculating the penetration resistance F_z is not understood. The penetration resistance F_z calculated from equation (2):

$$F_z [\text{kN}] = W - F_{ud} - \gamma V - F_{fz} \quad (\text{see line 4 page 9})$$

appears to be equal to zero given equation (3)

$$F_{fz} = W - F_{ud} - \gamma V \quad (\text{see line 10 page 9})$$

Because, when $W - F_{ud} - \gamma V = F_{fz}$ is substituted into equation (2), equation 2 becomes:

$$F_f [\text{kN}] = F_{fz} - F_{fz}.$$

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Therefore, F_z [kN] which represents the penetration resistance would appear to equal zero. This would not seem to be correct given applicant's previous summary of the invention as well as applicant's subsequent apparent contradicted on page 9 line 11 where it is stated that " $F_z (>0)$ ". If the term " F_{ud} " used in equation (3), is different than the " F_{ud} " used in equation (2) (i.e. representative of the lift cylinder load in an unloaded state whereas F_{ud} in equation (2) is representative of the lift cylinder load in a loaded state), it is suggested that the terms be identified differently to avoid confusion.

Additionally, on page 9 line 9, the term "unlanded" is not understood. Did applicant mean "unloaded"? Furthermore, if equation (3) represents the frictional resistance while the trencher is in a floating state in the air, it is unclear why the liquid specific gravity around the cutter post (γ), or the cutter post volume (V) would be a part of equation (3) since it should not appear to have an effect on the frictional resistance, if the trencher is floating in the air. Appropriate correction is required.

Allowable Subject Matter

Claims 1-11 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art of record discloses various trench excavators.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor Batson whose telephone number is (703) 305-6356. The examiner can normally be reached on Monday through Friday (except Wednesday).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Will can be reached on (703) 308-3870. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 17, 2005



Victor Batson
Primary Examiner
Art Unit 3671